REMARKS/ARGUMENTS

The present Amendment is in response to the Final Office Action having a mailing date of October 11, 2005. Claims 1-5, 9-14, and 17-22 are pending in the present Application.

This application is under Final Rejection. Applicant has presented arguments hereinbelow that Applicant believes should render the claims allowable. In the event, however, that the Examiner is not persuaded by Applicant's arguments, Applicant respectfully requests that the Examiner enter the Amendment to clarify issues upon appeal.

In the above-identified Office Action, the Examiner rejected claims 1-2, 11, 18-19 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,870,036 (Franaszek) in view of U.S. Patent No. 6,151,318 (Woodward). The Examiner also rejected claims 3 and 12 under 35 U.S.C. § 103 as being unpatentable over Franaszek and Woodward in further view of U.S. Patent No. 5,822,321 (Peterson). The Examiner further rejected claims 4-5 and 13-14 in view of Franaszek and Woodward in further view of Patent No. 5,389,922 (Seroussi).

In the above-identified Office Action, the Examiner rejected claims 1-2, 11, 18-19 under 35 U.S.C. § 103 as being unpatentable over Franaszek in view of Woodward. In so doing, the Examiner relied upon Franaszek as teaching representing the first end of a segment with a partition code word. Although the Examiner did not specify the grounds of rejection for claims 17 and 20-22, Applicant presumes that the Examiner rejected these claims under Franaszek in view of Woodward.

Applicant respectfully disagrees with and traverses the Examiner's rejection. Independent claim 1 recites:

> 1. A method for compressing data for transmission using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, the method comprising the steps of:

representing the first end of a segment of the plurality of segments with a partition compression code word, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

compressing a remaining portion of the segment.

Similarly, independent claim 8 recite:

8. A method for compressing data for transmission using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, a dictionary being used in compressing the data, the method comprising the steps of:

representing the first end of a segment of the plurality of segments with a partition compression code word, the partition compression code word representing a partition command sequence, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

adding bytes to a string including the command sequence representing the first end of the segment until the string does not have a match in the dictionary;

adding a code word to the dictionary, the code word including the partition command sequence as a root, the code word representing the string if the string is obtained in a first iteration;

utilizing the code word in the dictionary to represent the string if the string is not obtained in the first iteration;

compressing a remainder of the segment, if any.

Independent claim 10 recites:

10. A method for transmitting data using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, the method comprising the steps of:

representing the first end of a segment of the plurality of segments with a transparent mode command, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

transmitting the transparent mode command; and

transmitting a remaining portion of the segment.

Independent claim 11 recites:

11. A system for compressing data for transmission using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, the system

comprising:

means for representing the first end of a segment of the plurality of segments with a partition compression code word, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet; and

means for compressing a remaining portion of the segment.

Similarly, independent claim 17 recites:

17. A system for compressing data for transmission using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, a dictionary being used in compressing the data, the system comprising:

means for representing the first end of a segment of the plurality of segments with a partition compression code word representing a partition command sequence, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

means for adding bytes to a string including the first end of the segment until the string does not have a match in the dictionary;

means for adding a code word to the dictionary, the code word including the partition command sequence as a root, the code word representing the string if the string is obtained in a first iteration;

means for utilizing the code word in the dictionary to represent the string if the string is not obtained in the first iteration;

means for compressing a remainder of the segment, if any.

Independent claim 18 recites:

18. A system for transmitting data using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, the system comprising the steps of:

means for representing the first end of a segment of the plurality of segments with a transparent mode command, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

means for transmitting the transparent mode command and a remaining portion of the segment.

Independent claim 19 recites:

19. A computer-readable medium containing a program for compressing data for transmission using asynchronous transfer mode (ATM), the data

including a plurality of segments, each of the plurality of segments including a first end and a second end, the program including instructions for:

representing the first end of a segment of the plurality of segments with a partition compression code word, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

compressing a remaining portion of the segment.

Independent claim 20 recites:

20. A computer-readable medium containing a program for compressing data for transmission using asynchronous transform mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, a dictionary being used in compressing the data, the program including instructions for:

representing the first end of a segment of the plurality of segments with a partition compression code word, the partition compression code word representing a partition command sequence, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

adding bytes to a string including the first end of the segment until the string does not have a match in the dictionary;

adding a code word to the dictionary, the code word including the partition command sequence as a root, the code word representing the string if the string is obtained in a first iteration;

utilizing the code word in the dictionary to represent the string if the string is not obtained in the first iteration;

compressing a remainder of the segment, if any.

Independent claim 21 recites:

21. A computer-readable medium containing a program for transmitting data using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, a dictionary being used in compressing the data, the program including instructions for:

representing the first end of a segment of the plurality of segments with a partition compression code word, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

transmitting the partition compression code word;

compressing a remaining portion of the segment; and

transmitting the remaining portion of the segment.

Independent claim 22 recites:

22. A computer-readable medium containing a program for transmitting data using asynchronous transfer mode (ATM), the data including a plurality of segments, each of the plurality of segments including a first end and a second end, the program including instructions for:

representing the first end of a segment of the plurality of segments with a transparent mode command, the segment being at least one of an ATM cell, an ATM PDU and an IP packet, the first end being a boundary of the ATM cell, the ATM PDU or the IP packet;

transmitting the transparent mode command; and

transmitting a remaining portion of the segment.

Thus, independent claims 1, 8, 10, 11, 17, 18, 19, 20, 21, and 22 recites methods, systems, and computer-readable media which recite representing the first end of a segment with a partition compression code word or a transparent mode command.

Using the methods, systems, and computer-readable media recited in claims 1, 8-11, and 17-22, data may be transmitted in packets such that the boundaries of IP packets, ATM PDUs and/or ATM cells are delineated. Consequently, multiple IP packets may be placed in an ATM PDU, more ATM cells may be placed in a particular bit stream, compression may be made more efficient and network performance may be improved. Specification, page 9, lines 17-20, page 12, lines 8-19, and page 13, lines 10-18.

Franaszek in view of Woodward neither teaches nor suggests the methods, systems, and computer-readable media recited in independent claims 1, 8-11, and 17-22. Franaszek in view of Woodward fail to teach or suggest representing a first end of a segment with a partition compression code word or a transparent mode command.

Franaszek describes a system that does perform compression. The cited portions of Franaszek describe compressing blocks of data. Franaszek, col. 4, lines 14-20. In particular, Franaszek describes selecting an optimal compression method from a number of compression methods (including leaving the block uncompressed) for each block. Franaszek, col. 5, lines 19-33. The system of Franaszek uses an identifier to indicate whether the block has been

compressed using a dictionary. Franaszek, col. 4, lines 46-49. The dictionary includes "dictionary blocks" that are stored in memory and accessed using an index that indicates the offset (or start) of a dictionary block. Franaszek, col. 4, lines 50-51. If the block is compressed using a dictionary, and thus dictionary blocks, Franaszek utilizes an identifier for the dictionary block to which the block being compressed corresponds. Thus, the block being compressed is replaced by data including an index indicating the compression method (e.g. which dictionary based method or which non-dictionary based method) used, an identifier for the dictionary block, and a compression method description. Franaszek, col. 4, lines 55-59.

Thus, Franaszek describes compressing blocks of data. Furthermore, as part of the compression, Franaszek describes information placed in the compressed block. Although this information may identify *dictionary blocks* Franaszek fails to describe representing the first end of a *segment being compressed* with a compression code word or a transparent mode command. Similarly, although an index may be used represent the start of a *dictionary block* stored *in memory*, Applicant can find no mention in Franaszek of a similar index or code word being used to represent the start of a *segment being compressed.* Consequently, although Franaszek functions well for its intended purpose, Franaszek fails to teach or suggest the methods, systems, and computer-readable media recited in claims 1, 8-11, and 17-22.

Woodward fails to remedy the defects of Franaszek. Applicant agrees that Woodward discusses transmission of data using ATM cells. However, as previously argued, Woodward also fails to teach or suggest representing a first end of the segment being compressed with a compression code word or a transparent mode command. Thus, any combination of Franaszek and Woodward would also fail to teach or suggest this feature. Stated differently, the addition of Woodward might allow the teachings of Woodward to be used in conjunction with ATM. Thus,

the combination would still simply select a method of compression and in the compressed data provide an index indicating the compression method (e.g. which dictionary based method or which non-dictionary based method) used, an identifier for the dictionary block, and a compression method description for a block of ATM data. However, the combination would still not use a compression code word or transparent mode command to represent the first end of a segment. Consequently, Franaszek in view of Woodward fails to teach or suggest the methods, systems, and computer-readable media recited in claims 1, 8-11, and 17-22. Accordingly, Applicant respectfully submits that independent claims 1, 8-11, and 17-22 are allowable over the cited references.

Claim 2 depends upon independent claim 1. Consequently, the arguments herein apply with full force to claim 2. Accordingly, Applicant respectfully submits that claim 2 is also allowable over the cited references.

The Examiner also rejected claims 3 and 12 under 35 U.S.C. § 103 as being unpatentable over Franaszek and Woodward in further view of Peterson.

Applicant respectfully disagrees with the Examiner's rejection. Claims 3 and 12 depend upon independent claims 1 and 11, respectively. Consequently, the arguments herein with respect to Franaszek and Woodward. In particular, Franaszek in view of Woodward fails to teach or suggest representing a first end of a segment with a compression code word or a transparent mode command.

Peterson fails to remedy the defects of Franaszek and Woodward. Applicant agrees that Peterson describes the first end being the start of a segment. Peterson describes the benefits of segmenting data transmission into smaller packets. Peterson, col. 1, lines 8-11 and 21-29. Further, the cited figure of Peterson merely shows that the start of a particular segment

corresponds with the start of a particular data packet. The cited portion of Peterson fails to describe using a code word to represent a boundary of an IP packet, an ATM PDU, and/or an ATM cell. Consequently, any combination of Franaszek and Woodward in view of Peterson would also fail to teach such a feature. Stated differently, Peterson fails to remedy the defects of Franaszek and Woodward. Consequently, any combination of Franaszek and Woodward in view of Peterson fails to teach or suggest the method and system recited in claims 3 and 12, respectively. Accordingly, Applicant respectfully submits that claims 3 and 12 are allowable over the cited references.

The Examiner further rejected claims 4-5 and 13-14 in view of Franaszek and Woodward in further view of Seroussi.

Seroussi fails to remedy the defects of Franaszek and Woodward. Applicant agrees that Seroussi describes encoding data. However, Seroussi still fails to describe representing a first end of a segment with a compression code word or a transparent mode command. Instead, the cited portion of Seroussi describes variations of Lempel-Ziv encoding. In particular, the cited portion of Seroussi describes encoding variable length strings. However, Applicant has found no mention in Seroussi of representing a first end of a segment with a compression code word or a transparent mode command. Thus, Seroussi fails to remedy the defects of Franaszek and Woodward. Consequently, any combination of Franaszek and Woodward in view of Seroussi fails to teach or suggest the method and system recited in claims 3 and 12, respectively. Accordingly, Applicant respectfully submits that claims 3 and 12 are allowable over the cited references. Further, Applicant respectfully submits that 1-5, 9-14, and 17-22 are allowable over the cited references.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

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Date

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